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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/626,573	07/25/2003	Yoshiaki Hirano	2003_1020A	9550

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WENDEROTH, LIND & PONACK, L.L.P.  
2033 K STREET N. W.  
SUITE 800  
WASHINGTON, DC 20006-1021

EXAMINER
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KEYS, ROSALYND ANN

ART UNIT	PAPER NUMBER
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1621

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/25/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/626,573

Applicant(s)

HIRANO ET AL.

Examiner

Rosalynd Keys

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 August 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2,4-9,11,12,14-22 and 24-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,2,4-9 and 11 is/are allowed.
- 6) ☒ Claim(s) 12 and 14-22 and 24-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Status of Claims***

1. Claims 1, 2 and 4-9, 11, 12, 14-22 and 24-30 are pending.

Claims 1, 2 and 4-9, and 11 are allowed.

Claims 12 and 14-22 and 24-30 are rejected.

Claims 3, 10, 13 and 23 are cancelled.

### ***Continued Examination Under 37 CFR 1.114***

2. A request for continued examination under 37 CFR 1.114 was filed in this application after appeal to the Board of Patent Appeals and Interferences, but prior to a decision on the appeal. Since this application is eligible for continued examination under 37 CFR 1.114 and the fee set forth in 37 CFR 1.17(e) has been timely paid, the appeal has been withdrawn pursuant to 37 CFR 1.114 and prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on August 18, 2006 has been entered.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 24-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 24-26 are indefinite because they depend from cancelled claim 23.

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***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

8. Claims 12 and 26-30 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Kyrides (US 2,015,115).

Kyrides teaches a substantially pure mono-beta-hydroxyethyl ether of resorcinol (see entire disclosure, in particular example 1).

The metal and/or halogen content of the substantially pure mono-beta-hydroxyethyl ether of resorcinol are not disclosed. However, since the ether is purified by crystallization in a method similar to the method disclosed for obtaining the claimed aromatic ether, the Examiner concludes that the ether disclosed by Kyrides has a similar metal and/or halogen content. If however, it is determined that the ether disclosed by Kyrides has a metal and/or halogen content outside of the claimed ranges then the claimed aromatic ethers are still considered to be obvious over the mono-beta-hydroxyethyl ether of resorcinol disclosed by Kyrides because

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when claiming a purer form of a known compound, it must be demonstrated that the purified material possess properties and utilities not possessed by the unpurified material. Ex parte Reed, 135 U.S.P.Q. 34, 36 (P.O.B.A. 1961), on reconsideration, Ex parte Reed, 135 U.S.P.Q. 105 (P.O.B.A. 1961). In the instant case, the Applicants have not demonstrated that the claimed aromatic ethers have a property or utility not possessed by the substantially pure mono-beta-hydroxyethyl ether of resorcinol, as disclosed by Kyrides.

9. Claims 12, 24 and 27-30 are rejected under 35 U.S.C. 103(a) as obvious over Linden et al. (US 4,366,193).

Linden et al. teach monohydroxyethyl catechol (see example 3).

Linden et al. differ from the instant invention in that Linden et al. fail to disclose the metal and/or halogen content of their monohydroxyethyl catechol. One having ordinary skill in the art at the time the invention was made would have found the claimed aromatic ether obvious over the monohydroxyethyl catechol disclosed by Linden et al. because when claiming a purer form of a known compound, it must be demonstrated that the purified material possess properties and utilities not possessed by the unpurified material. Ex parte Reed, 135 U.S.P.Q. 34, 36 (P.O.B.A. 1961), on reconsideration, Ex parte Reed, 135 U.S.P.Q. 105 (P.O.B.A. 1961). In the instant case, the Applicants have not demonstrated that the claimed aromatic ethers have a property or utility not possessed by the monohydroxyethyl catechol of Linden et al.

10. Claims 12, 25 and 27-30 are rejected under 35 U.S.C. 103(a) as obvious over Yoshimori et al. (JP 63-246311).

Yoshimori et al. teach hydroxyalkyl ether of hydroquinone (see attached abstract).

Yoshimori et al. differ from the instant invention in that Yoshimori et al. fail to disclose the metal and/or halogen content of their hydroxyalkyl ether of hydroquinone. One having ordinary skill in the art at the time the invention was made would have found the claimed

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aromatic ether obvious over the hydroxyalkyl ether of hydroquinone disclosed by Yoshimori et al. because when claiming a purer form of a known compound, it must be demonstrated that the purified material possess properties and utilities not possessed by the unpurified material. Ex parte Reed, 135 U.S.P.Q. 34, 36 (P.O.B.A. 1961), on reconsideration, Ex parte Reed, 135 U.S.P.Q. 105 (P.O.B.A. 1961). In the instant case, the Applicants have not demonstrated that the claimed aromatic ethers have a property or utility not possessed by the hydroxyalkyl ether of hydroquinone disclosed by Yoshimori et al.

11. Claims 14-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mitsui Petrochem KK (MITC), [JP 75017976 B] or Mitsui Petroleum Chem Ind Co LTD (MITC), [JP 68018371B] in view of Koichi et al. (JP 10-053550).

MITC '976 and MITC '371 each teach preparation of glycol ethers from alkylene oxides and phenols in the presence of solvents having solubility parameters within the claimed range (see attached Derwent abstracts).

MITC '976 and MITC '371 differ from the instant claims in that they fail to teach the use of an anionic exchange resin as the catalyst.

Koichi et al. teach preparing glycol ethers by reacting an alkylene oxide with a an alcohol, including phenols, in the presence of an anionic exchange resin as the catalyst (see entire disclosure, in particular paragraphs 0025, 0026 and 0044).

One having ordinary skill in the art would have been motivated to substitute an anionic exchange resin as the catalyst, as taught by Koichi et al., in the process of MITC '976 and MITC '371, since Koichi et al. teach that the use of an anionic exchange resin as the catalyst offers improved catalyst endurance, producing the glycol ether in high activity and selectivity, suppressed by-product generation and lower purification cost (see paragraphs 0002-0005 and 0044).

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12. Claims 14-17, 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Imamura et al. (JP 60243036 A) in view of Koichi et al. (JP 10-053550).

Imamura et al. teach preparation of a bisphenol alkylene-oxide adduct by reacting an alkylene oxide with a bisphenol in the presence of a tertiary amine catalyst and an organic solvent (see Derwent abstract).

Koichi et al. teach preparing glycol ethers by reacting an alkylene oxide with an alcohol, including phenols, in the presence of an anionic exchange resin as the catalyst (see entire disclosure, in particular paragraphs 0025, 0026 and 0044).

One having ordinary skill in the art would have been motivated to substitute an anionic exchange resin as the catalyst, as taught by Koichi et al., in the process of Imamura et al., since Koichi et al. teach that the use of an anionic exchange resin as the catalyst offers improved catalyst endurance, producing the glycol ether in high activity and selectivity, suppressed by-product generation and lower purification cost (see paragraphs 0002-0005 and 0044).

### ***Response to Amendment***

*Rejection of Claim 12 under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Summer et al. (WO 91/16292)*

13. Applicants' amendment to claim 12, filed August 18, 2006, is sufficient to overcome this rejection, since the aromatic ethers of Summer et al. do not contain a phenolic hydroxyl group. The rejection of claim 12 has been withdrawn.

### ***Allowable Subject Matter***

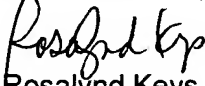
14. Claims 1, 2 and 4-9, and 11 are allowed.

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15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rosalynd Keys whose telephone number is 571-272-0639. The examiner can normally be reached on M, W & F 5:30-7:30 am & 1-5 pm; T & Th 5:30 am-4 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thurman Page can be reached on 571-272-0602. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Rosalynd Keys  
Primary Examiner  
Art Unit 1621

January 18, 2007